

Translation

PATENT COOPERATION TREATY

PCT/JP2003/016339



534142

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

|   |   |   |
|---|---|---|
| Applicant's or agent's file reference<br>JSONY-486PCT                                     | FOR FURTHER ACTION<br>See Form PCT/IPEA/416                                 |   |
| International application No.<br>PCT/JP2003/016339  | International filing date (day/month/year)<br>19 December 2003 (19.12.2003) | Priority date (day/month/year)<br>27 December 2002 (27.12.2002) |
| International Patent Classification (IPC) or national classification and IPC<br>H02M 3/28 |   |   |
| Applicant<br>SONY CORPORATION   |   |   |

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a. ☒ (sent to the applicant and to the International Bureau) a total of 5 sheets, as follows:

☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

☒ Box No. I Basis of the report

☐ Box No. II Priority

☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

☐ Box No. IV Lack of unity of invention

☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

☐ Box No. VI Certain documents cited

☐ Box No. VII Certain defects in the international application

☐ Box No. VIII Certain observations on the international application

|  |  |
|--|--|
| Date of submission of the demand<br>14 May 2004 (14.05.2004) | Date of completion of this report<br>08 February 2005 (08.02.2005) |
| Name and mailing address of the IPEA/JP                      | Authorized officer   |
| Facsimile No.  | Telephone No.  |

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2003/016339

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_, which is language of a translation furnished for the purpose of:
- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):

- ☐ The international application as originally filed/furnished
- ☒ the description:  
pages \_\_\_\_\_ 1-71 \_\_\_\_\_, as originally filed/furnished  
pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:  
pages \_\_\_\_\_, as originally filed/furnished  
pages\* \_\_\_\_\_, as amended (together with any statement) under Article 19  
pages\* \_\_\_\_\_ 1, 2, 4, 6 \_\_\_\_\_ received by this Authority on \_\_\_\_\_ 13 September 2004 (13.09.2004)  
pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the drawings:  
pages \_\_\_\_\_ 1-12 \_\_\_\_\_, as originally filed/furnished  
pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☒ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☒ the claims, Nos. \_\_\_\_\_ 3, 5, 7 \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (specify): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (specify): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (specify): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (specify): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP03/16339

**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

## 1. Statement

|                               |        |            |     |
|-------------------------------|--------|------------|-----|
| Novelty (N)                   | Claims | 1, 2, 4, 6 | YES |
|                               | Claims |            | NO  |
| Inventive step (IS)           | Claims |            | YES |
|                               | Claims | 1, 2, 4, 6 | NO  |
| Industrial applicability (IA) | Claims | 1, 2, 4, 6 | YES |
|                               | Claims |            | NO  |

## 2. Citations and explanations (Rule 70.7)

Document 1: JP, 8-37778, A (Sony Corp.), 6 February, 1996 (06.02.96)

Document 2: JP, 2002-64981, A (Sony Corp.), 28 February, 2002 (28.02.02)

Document 3: JP, 3-15269, A (Fuji Electric Co., Ltd.), 23 January, 1991 (23.01.91)

Document 4: Microfilm of the specification and drawings annexed to the written application of Japanese Utility Model Application No. 108886/1990 (Laid-open No. 64989/1992), (Fuji Electric Co., Ltd.), 4 June, 1992 (04.06.92)

Document 5: JP, 2002-247852, A (Sony Corp.), 30 August, 2002 (30.08.02)

Document 6: JP, 2001-333574, A (Matsushita Electric Industrial Co., Ltd.), 30 November, 2001 (30.11.01)

Document 7: JP, 2002-112542, A (Fujitsu General Ltd.), 12 April, 2002 (12.04.02)

The subject matters of claims 1 and 2 do not appear to involve an inventive step in view of documents 1-3 cited in the ISR. Because (1) a switching power-supply circuit having a power-factor improvement circuit, described in document 1, (2) a switching power-supply circuit having both (a) a constant-voltage control means using frequency control and (b) a constant-voltage control means using inductance control, described in document 2, and (3) a constitution of switching power-supply circuits, described in document 3, wherein a plurality of switching power-supply circuits each having (a) a plurality of output parts and (b) a switching means to control the timing of supply on one of the said output parts, are provided in parallel, wherein the said plurality of output parts of each of the said plurality of switching power-supply circuits are activated in a particular order, belong to technical fields closely related to one another, a person skilled in the art could have easily conceived of the idea of applying a constant-voltage control means using frequency control and a constant-voltage control means using inductance control, both described in document 2, and a means described in document 3 whereby a plurality of switching power-supply circuits are so constituted in parallel connection as to obtain a plurality of direct-current output voltages wherein the plurality of output parts are activated in a particular order, to a switching power-supply circuit having a power-factor improvement circuit, described in document 1.

The subject matter of claim 4 does not appear to involve an inventive step in view of documents 1-3 and 5 cited in the ISR. A switching power-supply device having a rectifying means to switch between voltage-doubling rectifying operation and equal-voltage rectifying operation is described in document 5.

The subject matter of claim 6 does not appear to involve an inventive step in view of documents 1-3 and 5-7 cited in the ISR. Using a plurality of output voltages of a switching power-supply device for drive-power supply for a plasma display device is well known, as described in documents 6 and 7.